CABLE NET SUZUKA DEPLOYS A10'S CGN SOLUTION TO OPTIMIZE IPV4 ADDRESSING FOR ITS HIGH-SPEED INTERNET SERVICE AND ENSURE APPLICATION TRANSPARENCY

A10

"
We were able to introduce a CGN solution that can support a wide range of applications through efficient use of IPv4 addresses, despite new addresses being difficult to obtain. We are thoroughly satisfied, especially with the throughput and cost performance."

Hiroshi Ono | Manager, Engineering Division, Cable Net Suzuka

CASE STUDY

COMPANY

Cable Net Suzuka Co., Ltd.

INDUSTRY

Service Provider

NETWORK SOLUTION

A10 Networks CGN

Mr. Masanobu Mizutani,
Leader Communications
Equipment Group,
Engineering Division

Mr. Hiroshi Ono,
Manager Engineering Division

CRITICAL ISSUES

- Efficient use of IPv4 addresses given the end of allocation

- Introduction of high-performance CGN solution

- Risk of the issue of compatibility with certain applications

RESULTS

- Successful launch of high-speed Internet service by optical fiber

- Cost-effective, high-performance CGN solution that can aggregate subscribers to a minimum number of IPv4 addresses

- Capacity to handle traffic volumes due to the expected increase of subscribers

- High application transparency with the application layer gateway (ALG) function

CNS

Cable Net Suzuka Co., Ltd. (CNS) provides cable TV broadcasts, telephone and Internet connection services in Suzuka City in Mie Prefecture, Japan. As CNS' service area is limited to Suzuka City, it can provide sufficient support coupled with programs that are closely related to the local community and high-speed Internet connectivity. A high-speed optical fiber Internet service called "CNS Hikari" has been launched to enhance service offerings. A10 Networks' Carrier Grade NAT (CGN) solution was chosen by Cable Net Suzuka, in order to provide efficient service using fewer IPv4 addresses, while many IPv4-based terminals remain in use.

ISSUE: CONSIDERATIONS FOR INTRODUCTION OF CGN TO START OPTICAL INTERNET SERVICE

Cable Net Suzuka Co., Ltd. is a provider of cable TV broadcasting and Internet services in the Suzuka City area. Having been limited to a maximum speed of 160 Mbps by the coaxial cables and modems used to provide Internet access, the company decided to shift its service to an optical fiber infrastructure to meet the demand for faster networks. As a result, a shortage of new IPv4 addresses became an issue.

"The allocation of new IPv4 addresses ended in spring 2012, and it has become difficult to secure a stable supply of addresses for new services, but many customers are still using older equipment at home that does not support IPv6. How efficiently the limited number of IPv4 addresses available can be used among many customers was the issue," revealed Koji Ono, manager of CNS' Engineering Division.

He explained that effective use of IPv4 addresses via CGN has been indispensable to the provision of new services. However, Masanobu Mizutani of the Communication Equipment Group at CNS' Engineering Division added that they had to select and introduce a CGN solution very carefully because installing CGN inline for the networks could affect the quality of the entire network service.

"I'd heard about compatibility issues with certain applications from a group company who had already introduced CGN. Although it is much faster, that would be pointless if the customers could no longer use their preferred applications."
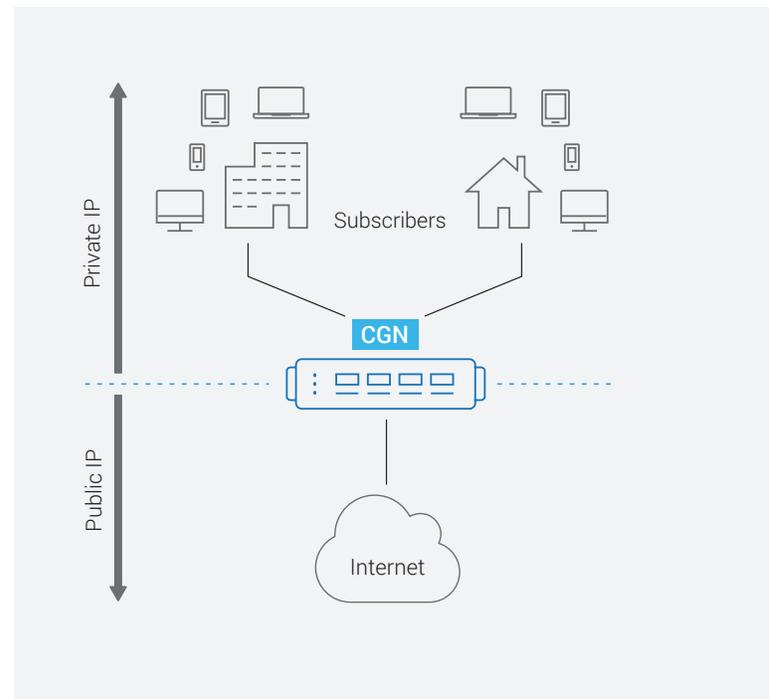

Figure 1: Cable Net Suzuka's IPv4 preservation/ IPv6 migration solution

VERIFICATION: HIGH CAPACITY PER ADDRESS, COST PERFORMANCE AND APPLICATION TRANSMISSION ARE DECISIVE FACTORS

Comparisons and discussions were made using several models as candidates based on integrator's information, before A10 Networks' CGN solution was selected. There were three main factors behind that decision, according to Mr. Ono.

"Firstly, A10's CGN solution has a capability to aggregate as many customers as possible to the minimum number of IPv4 addresses. Another factor was the high throughput potential designed to cope with increased traffic in the near future while delivering high cost performance. The final factor was the excellent support for applications that are difficult to convert to Network Address Translation (NAT), such as SIP and online games."

A10's CGN solution was highly evaluated for its support for a wide range of applications via an application layer gateway (ALG) function that converts IP addresses included in the data payload as well as operating a full-cone NAT with high transmission. Additionally, many CGN-related functions such as hair-pinning, which controls communication between users under the CGN, and Rule Lists, which allow the flexible setting of an NAT policy to meet specific needs, are built on A10's CGN solution.

As Mr. Mizutani described the installation: "After selecting one model, we thoroughly verified its operation before introducing it to the actual service. We focused on checking 30-40 types of applications that had become an issue for a group company, but almost all of them could be used without any problems, so we were able to introduce this service without concern."

BENEFIT: AIMING TO DOUBLE THE NUMBER OF OPTICAL SERVICE SUBSCRIBERS THROUGH A NETWORK WITH SUFFICIENT SUPPORT

The new "CNS Hikari" service in which the CGN function of the A10 solution is embedded in a high-speed network which was launched in November 2013. Mr. Mizutani recalled that the new service was welcomed as many customers longed for the high-speed Internet access afforded by optical fiber.

He noted, "Some customers returned after trying out another carrier in their search for faster connectivity enabled by optical fiber service."

With a very reasonably priced set menu available for faster network service combined with cable TV or telephone service, the overall attractiveness of Cable Net Suzuka's service has been enhanced.

He added, "The total number of subscribers for all services is currently about 53,500 households. Of these, the number of subscribers to the Internet connection service is about 12,000 households. We are certain that even more customers will use CNS Hikari once they discover that such a high-speed and high-quality network is available at low cost, and a setup service is provided at the customer's home in the same way as for cable TV. Our target is to double the number of subscribers for Internet connectivity."

The A10 Networks product line of CGN gateways provides the necessary support for Cable Net Suzuka, whose aim is to expand its customer base by providing services that are close to the heart of the community.

> " … A10's CGN solution has a capability to aggregate as many customers as possible to the minimum number of IPv4 addresses. Another factor was the high throughput potential designed to cope with increased traffic in the near future while delivering high cost performance."

ABOUT CABLE NET SUZUKA

Cable Net Suzuka Co., Ltd. was established in August 1990, and provides cable TV broadcasts, telephone and Internet connection services in Suzuka City in Mie prefecture, Japan. While providing cable TV service is its core business, Cable Net Suzuka also offers Internet connection and IP telephone services to the local community. In November 2013, Cable Net Suzuka launched a high-speed optical fiber Internet service called "CNS Hikari" to further enhance the existing Internet connection service through coaxial cable systems that provide up to 160 Mbps.

ABOUT A10 NETWORKS

A10 Networks (NYSE: ATEN) is a Secure Application Services™ company, providing a range of high-performance application networking solutions that help organizations ensure that their data center applications and networks remain highly available, accelerated and secure. Founded in 2004, A10 Networks is based in San Jose, Calif., and serves customers globally with offices worldwide.

For more information, visit: **a10networks.com** or tweet **@A10Networks**.

ABOUT A10 NETWORKS, K.K.

A10 Networks, K.K. is the Japan office of A10 Networks. It holds a mission to deliver innovative application networking solutions, while proactively incorporating feedback and requirements from customers in the local market.

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A10 THUNDER CGN
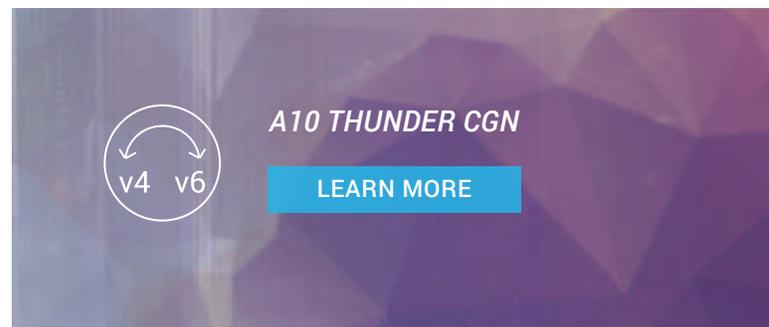
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